

# PROPOSED RULE MAKING

## Hazardous Materials Regulations Board

[49 CFR Parts 172, 173, 178]

[Docket No. HM-85; Notice 71-14]

## TRANSPORTATION OF HAZARDOUS MATERIALS

### Notice of Proposed Rule Making

The Hazardous Materials Regulations Board is considering amendment of several unrelated sections of the Hazardous Materials Regulations. In the past, most proposals have been individually published to make review by the public easier. From the experience gained in publishing proposals in this manner, one serious drawback manifested itself. The number of rule-making actions underway at any one time became substantial enough to cause confusion and create difficulty due to frequent unexpected publication of unrelated changes. This is reported to have caused many interested persons difficulty in preparing complete and timely comments.

The Board wishes to avoid any unnecessary burden on the public in its rule-making procedures and is, therefore, adopting a new procedure set forth herein. The Board will continue to publish separate proposals when the subject matter is of distinct individual importance. However, on routine items such as those covered herein, it intends to publish collections of proposals on an intermittent basis. Commenters need only identify the particular proposal on which they wish to comment when responding. The proposals covered in this document are:

- A—High explosive in fiber drums.
- B—Hazardous materials in specification 106A and 110A tanks by rail freight and highway.
- C—Flammable liquids in DOT-109A100ALW, 6D/2S, and 37M/2S packaging.
- D—Corrosive liquids, n.o.s., shipped in bulk.
- E—Packaging for boron tribromide.
- F—Additional packaging for bromine.
- G—Hydrochloric acid and sodium chlorite solutions.
- H—Definitions and packaging for chromic acid solutions.
- I—Safety relief valve requirements for DOT-2P or 2Q packaging containing refrigerant gases.
- J—Packaging for chlorpicrin.
- K—Specification 4L cylinder.

### PROPOSAL A—HIGH EXPLOSIVES IN FIBER DRUMS

The Hazardous Materials Regulations Board is considering amending § 173.65 of the Department's Hazardous Materials

Regulations to provide for the shipment of wetted desensitized pentaerythrite tetranitrate (PETN) in a specification 21C fiber drum having an inside polyethylene bag.

The proposal is based on a special permit which has authorized shipment of PETN for over 7 years. The holder of the permit has petitioned for a rule change and reports that thousands of pounds of wetted desensitized PETN have been shipped with satisfactory experience.

In consideration of the foregoing, it is proposed to amend 49 CFR 172.5 and 173.65 as follows:

Part 172: In § 172.5 paragraph (a), the Commodity List would be amended as follows:

### § 172.5 List of hazardous materials.

(a) \* \* \*

Article	Classed as—	Exemptions and packing (see sec.)	Label required if not exempt	Maximum quantity in 1 outside container by rail express
(add)				
Pentaerythrite tetranitrate, desensitized, wet. See High Explosives.				

Part 173: In § 173.65, the introductory text of paragraph (e) and paragraph (e)(1) would be amended; paragraph (a)(4) would be added to read as follows:

§ 173.65 High explosives with no liquid explosive ingredient nor any chlorate.

(c) Ammonium picrate, cyclotri-methylenetrinitramine, pentaerythrite (desensitized), picric acid, trinitrobenzene, trinitrobenzoic acid, trinitroresorcinol, trinitrotoluene, or urea nitrate, when wet with not less than 10 pounds of water to each 90 pounds of dry material must be shipped in packagings as follows:

(1) Specification 10B (§ 178.156 of this chapter). Wooden barrels or kegs. Not over 50 gallons nominal capacity. Not authorized for wet desensitized pentaerythrite tetranitrate.

(4) Specification 21C (§ 178.224 of this chapter). Fiber drums with an inside polyethylene bag having 0.004 mil minimum thickness and liquid tight closure. Net weight not to exceed 200 pounds. Authorized only for wet desensitized pentaerythrite tetranitrate.

### PROPOSAL B—HAZARDOUS MATERIALS IN SPECIFICATION 106A AND 110A TANKS BY RAIL FREIGHT AND HIGHWAY

On January 28, 1970, in Docket No. HM-14; Amendment 173-18 (35 F.R. 1108), the Hazardous Materials Regulations were amended to remove the specification designation 106A500 from sec-

Two sections of the regulations were overlooked in making this editorial change. The Board proposes to change §§ 173.119 (a)(12), (e)(2), and (f)(3), and 173.251(a)(2) by deleting this unnecessary reference to DOT-106A500 tanks in the subject text.

### PROPOSAL C—FLAMMABLE LIQUIDS IN DOT-109A100ALW, 6D/2S, AND 37M/2S PACKAGING

The Hazardous Materials Regulations Board is considering amending § 173.119 of the Department's Hazardous Materials Regulations to authorize the shipment of certain flammable liquids in specification 109A100ALW tank cars, and to authorize the shipment of certain flammable liquids in packagings using a specification DOT-2S inner polyethylene container where a DOT-2SL unit is now authorized.

These proposals are based on petitions indicating that the proposed packaging is equivalent to or better than presently authorized packaging. In comparing these specifications, the Board has concluded that the petitions have merit and that the regulations should be amended to provide for this additional packaging.

A number of the specifications listed are for tank cars known to be quite old. Conclusive information that such tanks may no longer be in use in transportation is requested. The 50-year prohibition on car age has removed ARA-II from interchange and for this reason, reference to that specification is proposed to be deleted from § 173.119 (a)(12) and (e)(2).

In consideration of the foregoing, it is proposed to amend 49 CFR Part 173, as follows:

§ 173.119 Flammable liquids not specifically provided for.

(12) Specification 103,<sup>1</sup> 103W, 103ALW, 103DW, 104,<sup>1</sup> 104W, 105A100,<sup>1</sup> 105A100ALW, 105A100W, 106A500,<sup>1</sup> 106A500X, 106A800XNC, 106A800NCI,<sup>1</sup> 109A100ALW, 110A500W, 111A60ALW, 111A60F1, 111A60W1, 111A100W3, 111A100W4, 111A100W6, 112A200W, 112A400F, 114A340W, ARA-III,<sup>1</sup> ARA-IV,<sup>1</sup> or ARA-IV-A<sup>1</sup> (§§ 179.100, 179.101, 179.200, 179.201, 179.300, 179.301 of this chapter). Tank cars. For cars equipped with expansion domes, manway closures must be so designed that pressure will be released automatically by starting the operation of removing the manway cover. Openings in tank heads to facilitate application of lining are authorized and must be closed in an approved manner. (See §§ 179.3, 179.4 of this section) (See § 173.432 for shipping instructions).

(b) \* \* \*

(3) Specification 6D or 37M (nonreusable container) (§§ 178.102, 178.134 of this chapter). Cylindrical steel overpacks with inside specification 2S or 2SL (§§ 178.35, 178.35a of this chapter) polyethylene container. Authorized only for materials that will not react with polyethylene and result in container failure.

(e) \* \* \*

(2) Specification 103,<sup>1</sup> 103W, 103ALW, 103DW, 104,<sup>1</sup> 104W, 105A100,<sup>1</sup> 105A100ALW, 105A100W, 106A500,<sup>1</sup> 106A500X, 106A800XNC, 106A800NCI,<sup>1</sup> 109A100ALW, 110A500W, 111A60ALW, 111A60F1, 111A60W1, 111A100W3, 111A100W4, 111A100W6, 112A200W, 112A400F, 114A340W, ARA-III,<sup>1</sup> ARA-IV,<sup>1</sup> or ARA-IV-A<sup>1</sup> (§§ 179.100, 179.101, 179.200, 179.201, 179.300, 179.301 of this chapter). Tank cars. Cars having expansion domes must be equipped with manway closures, identification marks, and dome placards as prescribed in paragraphs (f) (4), (g), (h), and (h) (1) of this section. Openings in tank heads to facilitate application of lining are authorized and must be closed in an approved manner (see §§ 179.3, 179.4 of this chapter) (see Note 1 of paragraph (f) (3) of this section).

(f) \* \* \*

(3) Specification 105A100,<sup>1</sup> 105A100ALW, 105A100W, 106A500,<sup>1</sup> 106A500X, 106A800XNC, 106A800NCI,<sup>1</sup> 109A100ALW, 110A500W, 111A100W4, 112A200W, 112A400F, 114A340W, ARA-IV-A<sup>1</sup> (§§ 179.100, 179.101, 179.200, 179.201, 179.300, 179.301 of this chapter) (see Note 1). Tank cars. Specification 104,<sup>1</sup> 104W, 111A100W3, or ARA-IV (§§ 179.200, 179.201 of this chapter) tank cars are authorized under the conditions prescribed in paragraphs (f) (4), (g), (h), and (h) (1) of this section and Note 3 of this subparagraph. Openings in tank heads to facilitate application of lining are authorized and must be closed in an

<sup>1</sup> Use of existing tank cars authorized, but new construction not authorized.

approved manner. (See §§ 179.3 and 179.4 of this chapter.)

#### PROPOSAL D—CORROSIVE LIQUIDS, N.O.S., SHIPPED IN BULK

The Hazardous Materials Regulations Board is considering amendment of the Department's Hazardous Materials Regulations to authorize the bulk shipment of certain corrosive liquids, n.o.s., in tank cars, tank motor vehicles, and portable tanks. This proposal is in response to several petitions for rule making which are based upon satisfactory experience under special permits.

Corrosive liquids not named specifically in the regulations must be shipped as "Corrosive liquid, n.o.s." and are not authorized to be shipped in bulk. Bulk shipment has been authorized, however, under special permits. The Board is seeking

to develop a system whereby, without extensive rule changes, the shipments authorized may be incorporated into the regulations on the basis of good experience under special permits. One method to accomplish this is the establishment of an appropriate table for corrosive liquids in bulk, proposed below. It is the Board's intention that this table be amended periodically to accommodate bulk shipments of corrosive liquids when it appears that more extensive and detailed requirements are unnecessary.

In consideration of the foregoing, it is proposed to amend § 172.5, and add a new § 173.245a in 49 CFR as follows:

I. Part 172: In § 172.5 paragraph (a), the Commodity List would be amended as follows:

#### § 172.5 List of hazardous materials.

(a) \* \* \*

Article	Classed as—	Exemptions and packing (see sec.)	Label required if not exempt	Maximum quantity in 1 container by rail express
(change) Corrosive liquid, n.o.s.	Cor. L.	173.244, 173.245, 173.245a	White	5 plants.

#### II. Part 173:

(A) In Part 173, Table of Contents, § 173.245a would be added to read as follows:

Sec.  
173.245a Corrosive liquids, n.o.s., shipped in bulk.

(B) § 173.24a would be added to read as follows:

§ 173.245a Corrosive liquids, n.o.s., shipped in bulk.

(a) Corrosive liquids, n.o.s. may not be shipped in bulk in tank cars, tank motor vehicles, or portable tanks except as follows:

Corrosive liquid	Authorized tank car	Authorized cargo tank <sup>1</sup>	Authorized portable tank <sup>2</sup>
Diethyl phosphorochloridethionate	103AW, lined	MC 310, MC 311, MC 312, stainless steel, or lined.	
Dimethyl phosphorochloridethionate	do	MC 310, MC 311, MC 312, stainless steel, or lined.	
Ethyl chlorothioformate			DOT-51, mencl-clad.
Ethyl phosphonothioic dichloride, anhydrous	103AW		DOT-51.
Ethyl phosphonous dichloride, anhydrous			DOT-51.
Ethyl phosphoredichloridate	103ANW, 103AW, 111A100F2, 111A100W2, <sup>3</sup> 103AW		
Methyl phosphonothioic dichloride, anhydrous			DOT-51.
Methyl phosphonous dichloride <sup>4</sup>			DOT-51.

<sup>1</sup> See § 178.345-2(c) of this chapter. Corrosive protection must be provided in accordance with specification MC 312. <sup>2</sup> In lined tanks, must be loaded and shipped under a blanket of nonflammable, dry, inert gas, adequate to displace any significant amount of air.

<sup>3</sup> Specification 103ANW tank car tanks must be solid nickel at least 95 per cent pure; all cast metal parts of the tank in contact with the lining must have a minimum nickel content of approximately 93.7 percent. Specification 103AW tank car tanks must be lead-lined steel or must be made of steel at least 10 percent nickel clad; specification 103AW, 111A100F2, or 111A100W2 tanks must be lead-lined steel or made of steel with a minimum thickness of nickel cladding 3/4 inch; nickel cladding in tanks must have a minimum nickel content at least 99 percent pure nickel.

<sup>4</sup> Tank must be equipped with a safety-relief valve set at not less than 100 p.s.i.g. In addition, the relief valve must comply with § 173.315(f) (1).

#### PROPOSAL E—PACKAGING FOR BORON TRIBROMIDE

The Hazardous Materials Regulations Board is considering amendments to §§ 172.5 and 173.251 of the Department's Hazardous Materials Regulations to prescribe specific packaging for the shipment of boron tribromide.

Boron tribromide presently is required to be described as a corrosive liquid, n.o.s. It may be shipped under the exemption provisions of § 173.244 and in any pack-

agings described in § 173.245 that are compatible with the commodity.

There is at least one particularly significant hazard associated with this product, namely its property of reacting explosively if in contact with water when contained or when in large volumes. Consequently, the Board believes the material should be covered by name in the regulations, that no exemption from packaging should be granted, and that specific packaging should be provided. The packaging described herein is of

In consideration of the foregoing, 49 CFR Parts 172 and 173 would be amended as follows:

**§ 172.5 List of hazardous materials.**

(a) \* \* \*

Article	Classed as—	Exemptions and packing (see sec.)	Label required if not exempt	Maximum quantity in 1 outside container by rail express
(add)				
Boron tribromide.....	Cor. L.....	No exemption; 173.231	White.....	1 quart.

## II. Part 173:

(A) In Part 173 Table of Contents, § 173.251 would be amended to read as follows:

**Sec.**

173.251 Boron trichloride and boron tri-  
bromide.

(B) In § 173.251, the heading would be amended; paragraph (b) would be added to read as follows:

**§ 173.251 Boron trichloride and boron tribromide.**

(b) Boron tribromide must be packed in specification packaging as follows:

(1) Specification 15A, 15B, or 15P (§§ 178.168, 178.169, 178.182 of this chapter). Wooden or plywood boxes with inside glass receptacles not over 1 quart capacity each. Each glass receptacle must have a positive closure (not friction) and as prepared for shipment must be capable of withstanding an internal gage pressure of at least 15 p.s.i. The receptacle must be cushioned with sufficient absorbent incombustible material to completely absorb the contents in the event of leakage and must be packed within a securely closed metal can. Each can must then be cushioned with incombustible material within the prescribed outside packaging. Completed packaging for shipment must be capable of passing the tests prescribed in § 178.182-3(a). (1) of this chapter.

### PROPOSAL F—ADDITIONAL PACKAGING FOR BROMINE

The Hazardous Materials Regulations Board is considering amendment of § 173.252 of the Department's Hazardous Materials Regulations to authorize up to 1-quart bottles of bromine in a specification 12A fiberboard box, and to authorize the shipment of bromine in nickel-clad cargo tanks.

This proposal is based on petitions by two holders of special permits who have been shipping large volumes of bromine. The permits have been in effect for over 6 years, and both shippers state that all shipments have been made without any incident or mishap involving loss of product.

By adding a new cargo tank construction, this proposal also provides for an

increase in bromine payload from a maximum of 15,000 pounds or 300 percent of the water weight capacity of a tank, whichever quantity is the lesser, to a maximum of 30,000 pounds or 300 percent of the water weight capacity of a tank, whichever is the lesser. Present § 173.252 (a) (4) limits the water capacity to 5,100 pounds. This proposal would provide for a tank with a water capacity up to 10,200 pounds. This proposed added construction option is based on the successful experience with such large cargo tanks reported above.

In consideration of the foregoing, it is proposed to amend 49 CFR 173.252 as follows:

In § 173.252, paragraph (e) would be amended; paragraphs (a) (5) and (g) (3) would be added to read as follows:

§ 173.252 Bromine.

(a) \* \* \*

(5) Specification MC. 310 or MC 312 (§ 178.343 of this chapter). Tank motor vehicles. The tank must have a shell and head thickness of  $\frac{3}{8}$ -inch minimum with cladding material on the inside surface comprising at least 20 percent of the total shell or head thickness. The cladding material must conform to requirements of ASTM Specification B-162-69. The composite plate must conform to requirements of ASTM Specification A-265-69. The water weight capacity of the tank must not exceed 10,200 pounds and the maximum quantity of liquid bromine loaded into the tank must not exceed 30,000 pounds or 300 percent of the water weight capacity of the tank, whichever quantity is lesser. The total quantity loaded must not be less than 98 percent of the quantity the tank is authorized to carry.

(e) Except as provided in paragraphs (g) (2) and (3) of this section, bottles or jugs must be securely cushioned on all sides with incombustible packaging material, such as whiting, mineral wool, infusorial earth (kieselguhr), sifted ashes, powdered china clay, or similar material, at least 1 inch thick, which will not produce heat when mixed with bromine. The use of hay, sawdust, excelsior, or other organic material, either treated or untreated, as a cushioning or packaging material is prohibited.

(g) \* \* \*

(3) Specification 12A (§ 178.210 of this chapter) Fiberboard boxes with inside glass bottles having closures meeting the requirements of paragraph (d) of this section. Each bottle must be enclosed in a tinplate slipcover metal can surrounded by incombustible cushioning material. No box may contain any bottle of a capacity greater than 1 quart. Each box may contain not more than four bottles having a capacity not exceeding 1 quart, or 12 bottles having a capacity not exceeding 8 fluid ounces. The shipper must have established that the completed package closed for shipment, with inside bottles filled with a liquid of the same specific gravity and similar viscosity as bromine, is capable of withstanding the tests prescribed in § 178.210-10 of this chapter.

## PROPOSAL G—HYDROCHLORIC ACID AND SODIUM CHLORITE SOLUTIONS

The Hazardous Materials Regulations Board is considering amending § 173.263 of the Department's Hazardous Materials Regulations to authorize the shipment of sodium chlorite solutions in cargo tanks constructed of Type 316 stainless steel, and to authorize the shipment of hydrochloric acid and sodium chlorite solutions in specification 2E polyethylene bottles up to 1 gallon capacity in DOT-12R packaging.

These proposals are based on several petitions for rule change and satisfactory experience reported by the petitioner with numerous shipments made under special permits.

Paragraph (a) (10) of § 173.263 would be amended to provide for the shipment of sodium chlorite solutions in specification MC 311 and MC 312 cargo tanks made from Type 316 stainless steel, in addition to tanks made from Type 304L stainless steel. On the basis of information it has on file, the Board believes that this proposed change would provide for a better construction material than is now authorized for cargo tanks used in the transportation of sodium chlorite.

Paragraph (a)(27) would be amended by adding authorization for use of specification 2E inside polyethylene bottles for hydrochloric acid and sodium chlorite solutions in addition to the glass bottles now authorized. Paragraph (a)(29) would be added to provide for the shipment of hydrochloric acid and sodium chlorite solutions in not over four 1-gallon specification 2E polyethylene bottles within a DOT-12R packaging. A slight increase in total volume with this packaging would be allowed by the latter proposal when compared to paragraph (a)(27). However, the Board believes that both changes would provide for an increase in level of safety over the non-specification glass bottles now authorized.

In consideration of the foregoing, Part 173 would be amended as follows:

In § 173.263, paragraph (a) (10) and (27) would be amended; (a) (29) would be added to read as follows:

§ 173.263 Hydrochloric (muriatic) acid, hydrochloric (muriatic) acid mixtures, hydrochloric (muriatic) acid solutions, inhibited, sodium chlorite solutions (not exceeding 42 percent sodium chlorite), and cleaning compounds, liquid, containing hydrochloric (muriatic) acid.

(a) \* \* \*

(10) Specification MC 310, MC 311, or MC 312 (§ 178.343 of this chapter). Tank motor vehicles lined with rubber or equally acid-resistant material of equivalent strength and durability. Unlined specifications MC 311 and MC 312 tank motor vehicles made from Type 304L or 316 stainless steel are authorized for sodium chlorite solutions not exceeding 42 percent sodium chlorite only.

\* \* \*

(27) Specification 12R (§ 178.212 of this chapter). Paper-faced expanded polystyrene board boxes with not more than six inside glass bottles or specification 2E (§ 178.24a of this chapter) inside polyethylene bottles, not over 5 pints capacity each.

\* \* \*

(29) Specification 12R (§ 178.212 of this chapter). Paper-faced expanded polystyrene board boxes with not more than four specification 2E (§ 178.24a of this chapter) inside polyethylene bottles, not over 1-gallon capacity each.

\* \* \*

#### PROPOSAL H—DEFINITIONS AND PACKAGING FOR CHROMIC ACID SOLUTIONS

The Hazardous Materials Regulations Board is considering amending § 173.287 to define chromic acid solutions to eliminate that portion of the present regulations that could be construed to authorize the use of packaging prohibited by § 173.24, to delete authorization for packaging that allegedly is no longer in use, and to add specifications 29 and 33A packaging that is currently authorized for use under the terms of special permits.

The basis for this proposal is a petition to improve § 173.287 because of problems that have arisen in its application as presently written. The proposal is based in part on a study by the Manufacturing Chemists' Association, Inc., in cooperation with the Bureau of Explosives (AAR) in an effort to remedy these problems. This study included inquiries of known manufacturers and shippers of chromic acid solutions, and testing of a variety of formulations by the Bureau of Explosives' Laboratory.

Chromic acid solutions are not presently defined in the regulations as to composition. The petitioner states that liquid solutions of chromic acid alone, i.e., chromic acid anhydride dissolved in water without the presence of other acids, are seldom shipped. Solutions of chromic acid in water, containing one or more mineral acids, are shipped routinely throughout the United States and vary greatly in composition.

Regardless of composition, the designa-

tions on shipping papers is "Chromic acid solution." This is done even though other acids may be present in greater amounts than chromic acid, and possibly may present a greater hazard than chromic acid. The Board believes there is a need for better guidelines on determining packaging for such solutions. Such guidelines should be based on descriptions for these solutions.

In the listing of packagings in § 173.287 there is no distinction between the different types of solutions, and therefore the section is unsatisfactory. Unlined steel drums, for example, are satisfactory for chromic acid alone in water but are not adequate if mineral acids are present. The Board knows of two incidents where polyethylene packaging, as prescribed, was used for high concentration chromic acid solution. In each case packagings failed, in one instance shortly after filling and before shipment.

The proposed change includes a major change from the petitioner's proposal. A break point of 40 percent between solutions was recommended, but the Board proposes reducing this to 35 percent. The Board is aware of at least one instance with a 37-percent solution that involved leakage even though previous testing had apparently determined that the solution was compatible with polyethylene. Also solutions of higher concentration may cause fire when in contact with certain organic material and polyethylene is not safe to use for packaging the higher concentrations. The use of different shipping names as proposed herein would preserve this distinction.

The greater number of liquid mixtures containing chromic acid in industrial use today fall into the "Corrosive liquid, n.o.s." category, as described in this proposal. On the basis of experience, it is the petitioner's position that a person seeking information in the DOT regulations about such a solution would tend to think of the solution as a "chromic acid solution". This is the reason for the proposed novel structuring in § 173.287 described herein.

In consideration of the foregoing, 49 CFR Part 173 would be amended as follows:

Section 173.287 would be amended to read as follows:

#### § 173.287 Chromic acid solution.

(a) For the purposes of these regulations, a chromic acid solution is a solution of chromic acid (chromium trioxide) in water, with or without other acids, containing 35 percent or more of chromic acid by weight. (For solutions containing less than 35 percent chromic acid, see paragraph (c) of this section.) Packagings authorized must be of a design and be constructed of materials that will not react dangerously with or be decomposed by the chemical solution packaged therein.

(b) Chromic acid solutions must be packaged in specification containers as follows:

(1) Specification 1A (§ 178.1 of this

(2) Specifications 5, 5A, 5B (§§ 178.80, 178.81, 178.82 of this chapter). Metal barrels or drums with openings not exceeding 2.3 inches in diameter. Authorized for solutions containing chromic acid only.

(3) Specification 17E (§ 178.116 of this chapter). Steel drums. Authorized for solutions containing chromic acid only.

(4) Specification 12A or 12B (§§ 178.210, 178.205 of this chapter). Fiberboard boxes with one inside glass container not over 4 fluid ounces capacity, packed in a wax-lined cylindrical fiber carton with metal ends. The bottle closure must consist of a tightly secured, fitted, ground glass stopper. Space must remain between the bottle and the inner surface of the fiber cylinder and must be filled with closely packed asbestos in sufficient quantity to completely absorb the contents of the bottle in the event of breakage. Not authorized for solutions containing nitric acid.

(5) Specification 12R (§ 178.212 of this chapter). Paper-faced expanded polystyrene board boxes with inside glass bottles not over 5 pints capacity each. Not more than six 5-pint bottles may be packaged in one box. Each bottle must be well cushioned. Partitioning and cushioning must be provided to prevent bottles from shifting, or coming in contact with each other, the box wall, or the bottom. Each bottle closure must consist of a tightly secured, fitted, ground glass stopper, or a threaded-type, acid-resistant cap with a gasket or lining impervious to the acid, sufficiently resilient or cushioned to give an acidproof, leakproof closure.

(6) Specification 33A (§ 178.150 of this chapter). Polystyrene cases (nonreusable container) with inside glass bottles not over 5 pints capacity each. Not more than four 5-pint bottles may be packaged in one outside container. Each bottle closure must consist of a tightly secured, fitted, ground glass stopper, or a threaded-type, acid-resistant cap with a gasket or lining impervious to the acid, sufficiently resilient or cushioned to give an acidproof, leakproof closure.

(7) Specification 29 (§ 178.226 of this chapter). Mailing tubes, with glass bottles not over 1 ounce capacity each. Each bottle must be well cushioned. Partitioning and cushioning must be provided to prevent bottles from shifting or coming in contact with each other or the tube wall, bottom, or top.

(c) Solutions containing chromic acid in water, in concentration not exceeding 35 percent by weight (other acids may also be present), and which are not otherwise regulated by Subpart E of this part, must be described as "Corrosive Liquids, n.o.s.". In addition to the packaging and the limitations prescribed therefor in paragraph (b) of this section, solutions of this composition may also be packaged as follows:

(1) In packaging as prescribed in § 173.245, except (a) (4), (14), (15), (18),

(2) Specification 21P (§ 178.225 of this chapter). Fiber drum overpack with inside specification 2S or 2SL (§§ 178.35, 178.35a of this chapter) polyethylene container.

#### PROPOSAL I—SAFETY RELIEF VALVE REQUIREMENTS FOR DOT-2P OR 2Q PACKAGING CONTAINING REFRIGERANT GASES

The Hazardous Materials Regulations Board is considering amendment of § 173.304(e)(1) of the Department's Hazardous Materials Regulations to delete the requirement that DOT specifications 2P and 2Q metal containers be equipped with safety relief devices for shipment of refrigerant gases that are nonpoisonous and nonflammable.

The Board has received a petition from a shipper who formerly interpreted the regulations to authorize shipment of refrigerant gases under the exemptions provided in § 173.306(a)(3). In light of Docket No. HM-62; Amendment No. 173-38 (35 F.R. 16683), the petitioner became unsure of his interpretation and petitioned for confirmation of his interpretation, amendment of the regulations, or a special permit waiving the applicability of the particular provision.

The Board does not agree with the interpretation made by the petitioner. In the petition, however, it was stated that the shipper had 20 years of successful experience shipping refrigerant gases in 15-ounce seamless metal containers (commonly referred to as aerosol cans). These containers were not equipped with safety relief devices. The petitioner estimates he has shipped more than 25 million packages without a single incident occurring due to inadequate packaging.

Although the Board is not in agreement with the interpretation, in view of the considerable successful transportation experience with this packaging and the likelihood that other shippers could benefit from a similar authorization, the Board believes the petition for amendment of the regulations has merit.

In consideration of the foregoing, the Board proposes to amend paragraph (e)(1) of § 173.304 as follows:

§ 173.304 Charging of cylinders with liquefied compressed gas.

(e) \* \* \*

(1) Specifications 2P and 2Q (§§ 178.33, 178.33a of this chapter). Inside metal containers packed in strong wooden or fiberboard boxes of such design as to protect valves from injury or accidental functioning under conditions incident to transportation. Pressure in the container must not exceed 85 pounds p.s.i. absolute at 70° F. Each completed metal container filled for shipment must be heated until content reaches a minimum temperature of 130° F. without evidence of leakage, distortion, or other defect. Each outside shipping container must be plainly marked "Inside Containers Comply With Prescribed Specification."

#### PROPOSAL J—PACKAGING FOR CHLORPICRIN

The Hazardous Materials Regulations Board is considering amending §§ 178.57-11 and 178.57-21 of the Department's

§ 173.357 of the Department's Hazardous Materials Regulations to authorize the use of specification 4BW cylinders and to increase the quantity allowable in cylinders authorized for shipment of chlorpicrin and mixtures of chlorpicrin containing no compressed gas or Class A poisonous liquid.

This proposal is based on petitions for rule change and accumulated satisfactory shipping experience under special permits. Shipments under conditions as described in the proposed rule have been made for several years. The regulations now limit specification cylinders used for shipping chlorpicrin to a maximum water capacity of 275 pounds. This proposal would amend the regulations to authorize cylinders up to 1,000 pounds water capacity by deleting the quantity restriction now appearing in section 173.357(b)(1). Quantity limitations would then be determined by the cylinder specifications, the largest being 1,000 pounds water capacity. It is also proposed to add specification 4BW as an authorized packaging under the same conditions, since the Board considers this specification equivalent or better than the other packaging prescribed.

The special permits now in effect contain a minimum cylinder design pressure of 225 p.s.i. for cylinders over 275 pounds water capacity. The proposed change maintains this minimum.

Upon adoption of this proposal, Note 1 would become obsolete and is therefore proposed to be deleted.

In consideration of the foregoing, 49 CFR Part 173 would be amended as follows:

In § 173.357, paragraph (b)(1) would be amended; Note 1 thereto would be canceled as follows:

§ 173.357 Chlorpicrin and chlorpicrin mixtures containing no compressed gas or poisonous liquid, class A.

(b) \* \* \*

(1) Specification 3A, 3AA, 3B, 3C, 3D, 3E, 4A, 4B, 4BA, 4BW, or 4C (§§ 178.36, 178.37, 178.38, 178.40, 178.41, 178.42, 178.49, 178.50, 178.51, 178.61, 178.52 of this chapter). Metal cylinders. Each cylinder having a water capacity over 275 pounds must have a minimum design pressure of 225 p.s.i.g., unless the specification requires a higher minimum design pressure. Valves or other closing devices must be protected by screw-on metal caps, or by packaging the cylinders in boxes or crates, to protect the valves from damage during transportation. A cylinder closed by means of a solid plug may have the closure protected by a metal collar. Cylinders having a wall thickness of less than 0.08 inch must be packaged in boxes or crates.

NOTE 1: [Canceled]

#### PROPOSAL K—SPECIFICATION 4L CYLINDER

The Hazardous Materials Regulations Board is considering amending §§ 178.57-11 and 178.57-21 of the Department's

and to prohibit heat treating of material.

This proposal is based, in part, on petition by the Compressed Gas Association, Inc. In its petition the Association stated that the current material description is for a chemically nonstandard material. Although proper when originally specified, it appears that standardization has almost eliminated the described material from the market place. Apparently many suppliers even refuse to accept orders for the specified material. It is reported to have been replaced by ASTM-S-240, Type 304. The petition also states that low temperature properties, especially in the weld zone, would be improved by the requested change.

The Board proposes to amend § 178.57-11(a) to prohibit heat treating of the material, for there is no apparent reason for the use of heat treatment on this austenitic steel. Further, it has been contended that heat treatment may be detrimental to the finished cylinder. If heat treatment is desirable, any person having data to support the rule as presently written is requested to specifically comment on this matter and to furnish the supporting data to the Board.

In consideration of the foregoing, 49 CFR Part 178 would be amended as follows:

In § 178.57-11, paragraph (a) would be amended; in § 178.57-21 paragraph (a) Table 1 and Note 1 would be amended; footnotes 1 and 3 would be canceled; footnote 2 would be redesignated footnote 1 as follows:

§ 178.57 Specification 4L; welded cylinders insulated.

§ 178.57-11 Heat treatment.

(a) Not permitted.

§ 178.57-21 Authorized steels.

(a) Electric furnace steel of uniform quality. Chemical analysis must conform to ASTM S-240, Type 304 Stainless Steel. The following chemical analyses and physical properties are authorized:

TABLE I—AUTHORIZED MATERIALS

Designation	Chemical analysis, limits in percent; stainless steel; type 304
Carbon <sup>1</sup> .....	0.08 maximum.
Manganese .....	2.00 maximum.
Phosphorus .....	0.045 maximum.
Sulphur .....	0.030 maximum.
Silicon .....	1.00 maximum.
Nickel .....	8.00-10.00.
Chromium .....	18.00-20.00.
Molybdenum .....	
Titanium .....	
Columbium .....	

Physical properties (annealed)

Tensile strength, p.s.i. (minimum) .....	75,000
Yield strength, p.s.i. (minimum) .....	30,000
Elongation in 2-inch (minimum) (percent) .....	30.0
Elongation other permissible gage lengths (percent) .....	15.0

NOTE 1: A heat of steel made under the above specifications is acceptable, even though its check chemical analysis is slightly out of the specified range, if it is satisfactory in all other respects, provided the tolerances shown in the following table are not exceeded except as approved by the Department.

Check Analysis Tolerances table remains the same.

\* \* \* \* \*

Interested persons are invited to give their views on these proposals. Communications should identify the docket number and the proposal and be sub-

mitted in duplicate to the Secretary, Hazardous Materials Regulations Board, Department of Transportation, 400 Sixth Street SW., Washington, DC 20590. Communications received on or before August 17, 1971, will be considered before final action is taken on these proposals. All comments received will be available for examination by interested persons at the Office of the Secretary, Hazardous Materials Regulations Board, both before and after the closing date for comments.

These proposals are made under the

authority of sections 831-835 of title 18, United States Code, section 9 of the Department of Transportation Act (49 U.S.C. 1657), and title VI and section 902(h) of the Federal Aviation Act of 1958 (49 U.S.C. 1421-1430 and 1472(h)).

Issued in Washington, D.C., on May 18, 1971.

W. J. BURNS,  
Chairman, Hazardous  
Materials Regulations Board.

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